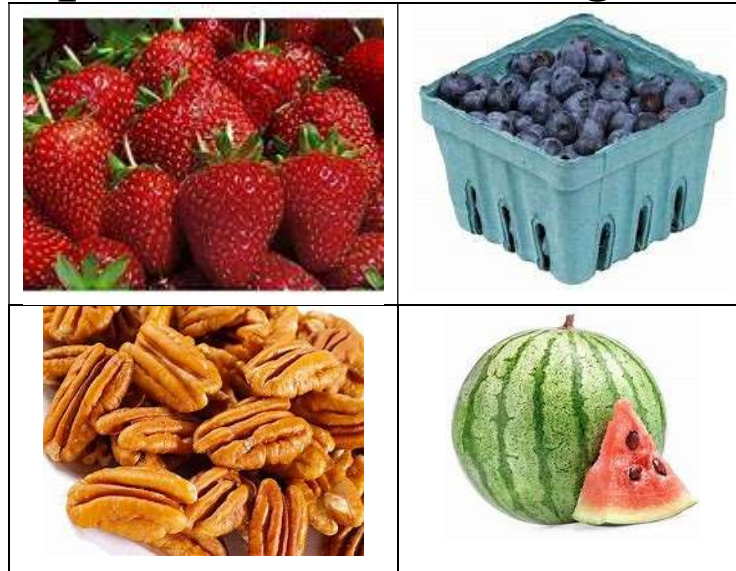


An Economic Production Guide for Fruit and Nut Growers, Agents, and Specialists in Georgia



By

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Foreword

This report serves as a guide for farmers, researchers and extension staffs, lending agencies, and others in agriculture. The budgets presented here are guides. Production practices, yields, selling and input prices vary significantly between growers, researchers, states and regions, as well as nationally and internationally. Growers are advised to enter their actual yields and selling and input price data.

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DISCLAIMER:

Any commercial product or equipment mentioned in this publication does not imply its endorsement by the University of Georgia, College of Agricultural and Environmental Sciences as a preferred product or equipment over those not mentioned. Furthermore, any omission of any product or equipment does not imply the product or equipment is unsatisfactory. This report is only a guideline. Production practices, yields, selling and input prices vary significantly between growers, researchers, states, regions (nationally and internationally). Growers are advised to enter their actual yield, selling and input price data in the column “Your Costs” to determine what their personalized result is.

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2019 Economics Planning Guide

Economic Analysis for Agricultural Enterprises

This publication provides economic and technical information in the form of enterprise budgets for conventional fruits and nut crops produced in the state of Georgia. The collaborators included a multidisciplinary team involving researchers, extension specialists and County Agent personnel involved in various aspect of fruits and nut research to determine production practices and input quantities, and to estimate costs for each enterprise. Our goal is to capture the actual agricultural practices adopted by Georgia fruits and nut growers.

An economic analysis using enterprise budgets represents a type of information that can be used by a wide variety of individuals in making decisions in the fruits and nuts industry. They are used:

1. by farmers for planning purposes
2. by extension personnel in providing educational programs to farmers,
3. by lenders as a basis for credit,
4. to provide basic data for research, and
5. to inform non-farmers of the costs incurred by farmers in the production of fresh food and fiber crops.

An economic analysis using enterprise budgets should be prepared with a specific objective in mind. The budgets in this report were prepared to provide general information for several different uses. They provide information concerning general levels of costs which will need to be adjusted for specific situations. Stakeholders and all the users should think of these analyses as a first approximation of the enterprise and then make appropriate adjustments using the "Your Farm" column provided on each budget to add, delete, or change costs to reflect their specific situations. Five scenarios of net return over costs (Best, Optimistic, Expected, Pessimistic and Worst) is included to show various revenue levels and chances of obtaining profitability is included to show the various revenues and chances of obtaining profitability. In most cases, we assume that 50% of the farmers would receive the Expected case scenario while 7% of them would receive the Best or Worst case at least once in ten years. In addition, a price sensitivity analysis, which depicts profitability margins at five different price levels is also included in this study. The logic behind these assumptions are due to price volatility in the fruits and nuts market.

Methods and Procedures

Production Practices

The production practices in this study are a reflection of actual practices adopted by growers in Georgia. It is also based on recommendations from University of Georgia (UGA) Researchers, Specialists and Extension Agents.

Machinery

Machinery costs were obtained from dealers. The prices vary based on size and horsepower (HP). We acknowledge that some farmers are more sophisticated than others are and may use more sophisticated and expensive machines. But our calculations are based on machines that would make economic sense based on the number of acres used in our study. Irrespective of the machine use, we amortized the equipment.

Pre-Variable Costs (P-VC)

Pre-Variable Cost (P-VC) in this study include such items as plants, fertility, mulch, fumigation, insecticides, fungicides, herbicides, stakes, strings, labor, irrigation and interest on operation costs.

Investment and Annual Fixed Costs

In the investment and annual fixed costs, equipment, such as tractors, plow, disc harrow, subsoiler, transplanter, sprayers, tillage etc. were used. We included the estimated percentage time each equipment was used for a particular crop, the total cost of the equipment, the salvage value, the life span, depreciation, interest rate, taxes and insurance in our calculation. We also assumed 6.5% interest rates. Due to rounding errors, 7% interest rate will show up in some areas.

Total Cost (TC)

Total cost (TC) was the summation of Pre-Variable Cost + Harvesting and Marketing Costs (H&MC) + Fixed Costs (FC). Another method used was the summation of Total Variable Cost (TVC) + Fixed Costs.

Estimates of Returns

Crop yields and prices are necessary to determine returns. However, because it is difficult to estimate crop yields that may be expected for a particular production system in a given year, this study assumed five yields scenario but the calculations are based on the expected yield since it is the yield that we believe at least 50% of the farmers may attain. Fresh fruits prices are fluctuating and volatile and may easily change.

Estimates of Irrigation Costs

Irrigation costs included a sprinkler system for solid set and drip tapes for the drip system. We also included power unit, well, pump, and filter. In our calculations, we considered the investment cost, the life span, depreciation, interest, taxes and insurance.

Estimates of Harvesting and Marketing Costs (H&MC)

Harvesting and Marketing costs were obtained directly from the growers or extension agents. These costs vary from year to year and sometimes, from grower to grower. In such case, the average is adopted. Some growers use brokers' services while others do not.

Pecans – High Input Growers

Table 1: Yields and Price Per lb. for High Input Pecan Growers

	Best	Opt.	Median	Pess	Worst
Yield (lbs.)	1600	1300	1000	700	400
Price per lb.	2.20	2.10	2.00	1.90	1.80

Table 2: Variable Costs of High Input Pecan Growers

Variable Costs	Unit	Quant.	Price	\$Amt./ac	Yours
Lime, applied	Ton	0.50	30.00	15.00	
N (46% Urea)	Lbs.	150.00	0.490	73.50	
Phosphorus	Lbs.	40.00	0.510	20.40	
Potassium	Lbs.	60.00	0.390	23.40	
Zn Sulfate (ground)	Lbs.	0.00	0.500	0.00	
Foliar Zn	Appl.	3.00	2.00	6.00	
Foliar Boron	Appl.	2.00	1.30	2.60	
Fungicides	Appl.	10.00	12.00	170.00	
Herbicides	Appl.	3.00	29.00	87.00	
Insecticide	Appl.	4.00	25.00	100.00	
Labor	Hr.	25.00	10.00	250.00	
Fuel & Oil	Gal	52.00	2.50	130.00	
Rep & maintenance .+ irrigation	Acre	1.00	37.00	37.00	
Land rent 1/-	Acre	1.00	0.00	0.00	
Irrigation (electricity)	Acre	1.00	100.00	100.00	
Interest on Operation Capital	\$	914.90	0.07	59.47	
Pre-Harvest Variable Costs				974.37	
Harvest and Marketing Costs	Unit	Quant.	Price	\$Amt./ac	
Harvesting (shake, sweep, haul)	Acre	1.00	140.00	140.00	
Cleaning & Drying	Lbs.	1000	0.12	120.00	
Labor	Hr.	4.00	10.00	40.00	
Brokerage fee (%)	Lbs.	1000	0.12	120.00	
FMO Commission	Lbs.	1000	0.03	30.00	
GA Pecan Commission	Lbs.	1000	0.01	10	
Total Harvesting and Marketing Costs				460.00	
Total Variable Costs				1434.37	
FIXED COST	Unit	Quant.	Price	\$Amt./ac	Yours
Tractor & Equipment	Acre	1.00	279.20	279.20	
Irrigation	Acre	1.00	47.20	47.20	
Overhead and Management	Acre	965	0.15	144.74	
Total Fixed Costs (\$)	Acre			471.14	
Total budgeted cost per acre (\$)				1,905.51	

Table 3: Sensitivity Returns Over Cash Flow – High Input Pecans

		Best	Opt	Opt	Expected	Pess	Pess	Worst
*Returns(\$)		934	659	383	108	-167	-443	-718
Chances		7%	16%	31%	50%			
Chances					50%	31%	16%	7%
CHANCES FOR PROFIT =		58%	BUDGETED NET REVENUE (\$) =					108

Table 4: Price Sensitivity Returns Over Cash Flow – High Input Pecans

Price/lb	Best	Opt.	Opt.	Expected	Pess	Pess	Worst	%Chance
\$/Lbs.	\$	\$	\$	1000 Lbs.	\$	\$	\$	of Profit
1.40	122	-84	-290	-496	-702	-908	-1,114	11
1.70	521	282	43	-196	-435	-674	-913	34
2.00	934	659	383	108	-167	-443	-718	58
2.30	1346	1,032	718	404	90	-224	-538	74
2.60	1767	1,413	1,058	704	350	-5	-359	84

Table 5: Break-Even (BE) Costs Per Lb.

BE pre-harvest variable cost per lb. (\$).	0.96
BE harvest & marketing cost per lb. (\$).	0.46
BE fixed costs per lb. (\$)	0.47
BE Yields (Lbs.)	946.02

Table 6: 1st Year Estimated Establishment And Maintenance Cost Per Acre – High Input Pecans

OPERATING COSTS	UNIT	QUANT.	PRICE	AMOUNT	Yours
Land prep 1/-	Acre	1.00	0	0.00	
Lime (DOL.)	Ton	1.00	30.00	30.00	
Fertilizer (10-10-10)	Lbs.	12.00	3.33	39.96	
Zinc Sulfate	Lbs.	24.00	0.35	8.40	
Foliar Zn	Acre	3.00	2.00	6.00	
Herbicides	Acre	3.00	29.25	87.75	
Spray material	Acre	2.00	15.00	30.00	
Trees (40 x 40) 2/-	Tree	27.00	19.00	513.00	
Labor	Hrs.	20.00	8.00	160.00	
Fuel	Acre	1.00	29.98	29.98	
Repair & Maintenance	Acre	1.00	37.00	37.00	
Irrigation	Acre	1.00	100.00	100.00	
Land Lease 3/-	Acre	1	0	0.00	
Interest on operation		942.09	0.065	61.24	
Total Operating Costs				1103.32	
FIXED COSTS	UNIT	QUANT.	PRICE	AMOUNT	
Tractor & Equipment	Acre	275.20	1.00	275.20	
Management Overhead	Acre	1103.32	0.15	165.50	
Irrigation	Acre	1.00	32.55	32.55	
Total Fixed Costs	\$			473.25	
Total Establishment Costs	\$			1576.57	

1/- Land prep vary significantly from \$0 - \$1,000 per acre.

2/- No. of trees depend on planting distances, i.e. 40 x 40 fts. = 27 trees; 50 x 25 = 35 trees;
40 x 20 = 55 trees; 60 x 30 = 24 trees

3/- Land lease vary from \$100 - \$300 depending on many factors such as irrigated or not.

**Table 7: 2nd Through 4th Years Estimated Annual Maintenance Costs
High Input Pecans**

OPERATING COSTS	UNIT	QUANT	PRICE	AMOUNT	Yours
			(\$)	(\$)	
Lime (Dolomite)	Ton	0.50	30.00	15.00	
Fertilizer (10-10-10)	Trees	81.00	3.33	269.73	
Zinc Sulphate	Lbs	35.00	0.35	12.25	
Foliar Zn	Acre	2.00	2.00	4.00	
Herbicides	Appl	3.00	29.25	87.75	
Trees	Acre	2.00	15.00	30.00	
Fungicides	Appl	3.00	12.00	36.00	
Insecticide	Appl	3.00	25.00	75.00	
Labor	Hrs	20.00	10.00	200.00	
Fuel	Acre	37.00	2.50	92.50	
Repair & Maintenance	Acre	1.00	37.00	37.00	
Irrigation	Acre	1.00	100.00	100.00	
Land Lease	Acre	1.00	200	200.00	
Interest on operation	\$	859.23	0.065	55.85	
Total Operating Costs	\$			1215.08	
FIXED COSTS					
Tractor & Equipment	Acre	1	275.20	275.20	
General Overhead	Acre	1215.08	0.15	182.26	
Irrigation	Acre	1	32.55	32.55	
TOTAL FIXED COSTS (TFC)				490.01	
TOTAL COSTS (TC)	\$			1705.09	

Table 8: 5th Through 7th Years Estimated Annual Maintenance Costs – High Input Pecans

OPERATING COSTS	UNIT	QUANT.	PRICE	AMOUNT	Yours
Lime (Dolomite)	Ton	0.50	30.00	15.00	
Ammonium nitrate	Lbs	100.00	0.48	48.00	
Phosphorus	Acre	40.00	0.51	20.40	
Potassium (K)	Acre	40.00	0.39	15.60	
Zinc Sulphate	Lbs	50.00	0.35	17.50	
Foliar Zn	Appl	3.00	2.00	6.00	
Fungicides	Appl	4.00	12.00	48.00	
Herbicides	Appl	3.00	29.25	87.75	
Insecticides	Appl	5.00	25.00	125.00	
Trees	Trees	2.00	15.00	30.00	
Labor	Hrs	23.00	10.00	230.00	
Fuel	Acre	37.00	2.50	92.50	
Repairs & Maintenance	Acre	1.00	37.00	37.00	
Irrigation	Acre	1.00	100.00	100.00	
Land Lease	Acre	1.00	200.00	200.00	
Interest on operation	Acre	772.75	0.07	54.09	
TOTAL OPERATING COSTS	\$			1126.84	
Fixed Costs	Unit	Quant.	Price	Amount	Yours
Tractors & Equipment	Acre	1.00	275.20	275.20	
General Overhead	Acre	1126.84	0.15	169.03	
Irrigation	Acre	1.00	32.55	32.55	
TOTAL FIXED COSTS (TFC)				476.78	
TOTAL COSTS (TC)				1603.62	

Table 9: Estimated Total Annual Fixed Machinery Costs – High Input Pecans

Acres	400	Acres						
Interest	6.5%							
	Used							
	For							
Item	Crop	Purchase Price	Salvage Value	Yrs. Life	Deprec.	Int	Tax&Ins	FC/Ac
Sprayer, herbicide*	100%	2500	500	10	200	98	21	0.80
Sprayer, airblast	100%	120000	24000	5	19200	4680	1008	62.22
Rotary Mower(15')	100%	21000	4200	10	1680	819	176	6.69
Dump carts	100%	26000	5200	10	2080	1014	218	8.28
Wagons(4 used)	100%	3600	500	5	620	133	29	1.95
Tractor (Hp 120)	100%	80000	16000	10	6400	3120	672	25.48
Tractor (Hp 120)	100%	80000	16000	10	6400	3120	672	25.48
Tractor (Hp 90)	100%	75000	15000	10	6000	2925	630	23.89
Truck	100%	40000	8000	5	6400	1560	336	20.74
Blower	100%	6500	1300	5	1040	254	55	3.37
Sweeper(2)**	100%	32,000	6400	10	2560	1248	269	10.19
Harvester	100%	60,000	12000	10	4800	2340	504	19.11
Shaker	100%	120000	24000	5	19200	4680	1008	62.22
Limb rake	100%	15000	3000	10	1200	585	126	4.78
Total Investment		\$ 681,600	136100		77780	26575	5724	275
TOTAL FIXED COSTS (\$)		110,079						
FIXED COSTS per ACRE (\$)		275.20						

* These prices are for new equipment. Used equipment could be purchased.

**Only one sweeper is required for 100 acres or less.

Table 10: Drip Irrigation – High Input Pecans

BASED ON	400 Acres				
SPACING	40 x 40				
INTEREST ON INVESTMENT CAPITAL	6.50 %				
ITEMS	NEW COST	YRS. LIFE	DEPREC.	INT.	TAX & INS.
PIPE & FITTINGS	10300	20	515	335	77
Tubing & Emitters Inline	38000	10	3800	1235	285
WELL (4")	4320	25	173	140	32
Pump & Motor	11000	15	733	358	83
Filter & Auto	10400	10	1040	338	78
Misc.	2221	20	111	72	17
Installation	40000	20	2000	1300	300
TOTAL INVESTMENT	116241		8372	3778	872
TOTAL ANNUAL FIXED COSTS					13022
ANNUAL FIXED COSTS PER ACRE (\$)					32.55
OPERATING COSTS					
MOTOR SIZE (HP)			8		
REPAIRS			4955		
ANNUAL PUMPING HOURS			1820		
ELECTRICITY					
Demand (standby charge) per YEAR			90		
Rate \$ per KWH			0.08		
ANNUAL ENERGY COST			905		
ANNUAL ENERGY COST PER ACRE					2.26
OPERATING COST PER ACRE PER YEAR (\$)					14.65
TOTAL ANNUAL COSTS PER ACRE (\$)					47.20

Pecans – Medium Input Growers

Table 1: Yields and Prices - Medium Input Pecan Growers

	Best	Opt	Median	Pess	Worst 1/-
*Yield (lbs.)	1400	1200	1000	600	300
*Price per lb.	2.60	2.30	2.00	1.70	1.40

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Medium Input Pecan Production

	Items		Unit	Quant.	Price	\$Amt/ac	Total
	Lime, applied		Ton	0.5	30.00	15.00	15
	N (46% Urea)		Lbs.	150	0.510	76.50	77
	Phosphorus		Lbs.	40	0.510	20.40	20
	Potassium		Lbs.	60	0.510	30.60	31
	Zn Sulfate (ground)		Lbs.	0	0.500	0.00	0
	Foliar Zn		Appl	4	2.00	8.00	8
	Foliar Boron		Appl	3	1.50	4.50	5
	Fungicides		Appl	10	15.00	150.00	150
	Herbicides		Appl	4	25.00	100.00	100
	Insecticide		Appl	4	28.00	112.00	112
	Labor		Hr.	25.00	10.00	250.00	250
	Fuel & Oil		Gal	62.00	2.50	155.00	155
	Rep & maint.+ irrigation		Acre	1	80.00	80.00	80
	Custom shaking		Acre	1	82.50	82.50	83
	Irrigation (electricity)		Acre	1	32.94	32.94	33
	Interest on Operation Capital		\$	1084.50	0.07	35.25	35
Pre-Harvest Variable Costs						1117.44	1117
Harvest and Marketing Costs							
			Unit	Quant.	Price	\$Amt/ac	Total
	Harvesting (sweeping, haul)		Acre	1.00	74.00	74.00	74
	Cleaning & Drying		Acre	1000	0.14	140.00	140
	Labor		Hr.	4.00	10.00	40.00	40
	Brokerage fee (%)		Lbs.	1000	0.12	120.00	120
	FMO Commission		Lbs.	1000	0.03	30.00	30
	GA Commission		Lbs.	1000	0.01	10	10
Total Harvesting and Marketing Costs						414.00	414
Total Variable Costs						1531.44	1531
FIXED COST							
			Unit	Quant.	Price	\$Amt/ac	Total
	Tractor & Equipment		Hr.	1.00	210.88	210.88	211
	Irrigation		Acre	1.00	32.94	32.94	33
	Overhead and Management		\$	1117	0.15	167.62	168
Total Fixed Costs						411.44	411
Total budgeted cost per acre						1942.89	1943

Table 3: Break-Even (BE) Costs Per Lb – Medium Input Pecans

BE pre-harvest variable cost per lb. (\$)	1.12
BE harvest & marketing cost per lb. (\$)	0.41
BE fixed costs per lb. (\$)	0.41
BE Yields per acre	971.44

Table 4: Sensitivity Rated Returns Over Cash Flow – Medium Input Pecans

	Best	Opt	Opt	Expected	Pess	Pess	Worst	
*Returns(\$)	684	434	183	-67	-354	-640	-927	
Chances	6%	16%	35%	54%				
Chances				46%	28%	16%	7%	
CHANCES FOR PROFIT =	49%		BUDGETED NET REVENUE (\$) =				57	

Table 5: Price Sensitivity Returns Over Cash Flow – Medium Input Pecans

	Best	Opt	Opt	Expected	Pess	Pess	Worst	\$-Net	%
Price/lb	\$	\$	\$	1000	\$	\$	\$	Returns	Chances
1.40	-57	-248	-439	-630	-839	-1049	-1,259	-543	5
1.70	309	90	-129	-348	-595	-842	-1,088	-243	23
2.00	684	434	183	-67	-354	-640	-927	57	49
2.30	1065	781	498	215	-114	-443	-771	357	67
2.60	1,449	1,132	814	496	124	-248	-619	657	77

Table 6: 1st Year Estimated Establishment and Maintenance Costs – Medium Input Pecans

OPERATING COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Land prep 1/-	Acre	1.00	0	0.00	
Lime (DOL.)	Ton	1.00	30.00	30.00	
Fertilizer (10-10-10)	Lbs.	12.00	3.33	39.96	
Zinc Sulfate	Lbs.	24.00	0.35	8.40	
Foliar Zn	Acre	3.00	2.00	6.00	
Herbicides	Acre	3.00	29.25	87.75	
Spray material	Acre	2.00	15.00	30.00	
Trees (40 x 40) 2/-	Tree	27.00	19.00	513.00	
Labor	Hrs.	20.00	8.00	160.00	
Fuel	Acre	1.00	29.98	29.98	
Repair & Maintenance	Acre	1.00	37.00	37.00	
Irrigation	Acre	1.00	32.94	32.94	
Land Lease 3/-	Acre	1.00	0	0.00	
Interest on operation		942.09	0.065	61.24	
Total Operating Costs				1036.26	
FIXED COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Tractor & Equipment	Acre	210.88	1.00	210.88	
Management Overhead	Acre	1036.26	0.15	155.44	
Irrigation	Acre	1.00	136.00	136.00	
Total Fixed Costs (\$)				502.32	
Total Establishment Costs (\$)				1538.58	

1/- Land prep vary significantly from \$0 - \$1,000 per acre.

2/- No of trees depend on planting distances, i.e. 40 x 40 ft. = 27 trees; 50 x 25 = 35 trees;
40 x 20 = 55 trees; 60 x 30 = 24 trees

3/- Land lease vary from \$100 - \$300 depending on many factors such as irrigated or not.

Table 7: 2nd Through 4th Years – Medium Input Pecans Production

OPERATING COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Lime (Dolomite)	Ton	0.5	30.00	15.00	
Fertilizer (10-10-10)	Trees	81	3.33	269.73	
Zinc Sulphate	Lbs	35	0.35	12.25	
Foliar Zn	Acre	2	2.00	4.00	
Herbicides	Appl	3	29.25	87.75	
Trees	Acre	2	15.00	30.00	
Fungicides	Appl	3	12.00	36.00	
Insecticide	Appl	3	25.00	75.00	
Labor	Hrs	20	10.00	200.00	
Fuel	Acre	37.00	2.50	92.50	
Repair & Maintenance	Acre	1	37.00	37.00	
Irrigation	Acre	1	32.94	32.94	
Land Lease	Acre	1	0	0.00	
Interest on operation		892.17	0.065	57.99	
Total Operating Costs				950.16	
FIXED COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Tractor & Equipment	\$	1	210.88	210.88	
General Overhead	\$	950.16	0.15	142.52	
Irrigation	Acre	1	136.00	136.00	
TOTAL FIXED COSTS (TFC)	\$			489.40	
TOTAL COSTS (TC)	\$			1439.57	

Table 8: 5th Through 7th Years – Medium Input Pecans Production

OPERATING COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Lime (Dolomite)	Ton	0.5	30.00	15.00	
Ammonium nitrate	Lbs	100	0.48	48.00	
Phosphorus	Acre	40	0.51	20.40	
Potassium (K)	Acre	40	0.39	15.60	
Zinc Sulphate	Lbs	50	0.35	17.50	
Foliar Zn	Appl	3	2.00	6.00	
Fungicides	Appl	4	12.00	48.00	
Herbicides	Appl	3	29.25	87.75	
Insecticides	Appl	5	25.00	125.00	
Trees	Trees	2	15.00	30.00	
Labor	Hrs	23	10.00	230.00	
Fuel	Acre	37.00	2.50	92.50	
Repairs & Maintenance	Acre	1	37.00	37.00	
Irrigation	Acre	1	32.94	32.94	
Interest on operation		805.69	0.065	52.37	
TOTAL OPERATING COSTS				858.06	
FIXED COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Tractors & Equipment	\$	1	210.88	210.88	
General Overhead	\$	858.06	0.15	128.71	
Irrigation	\$	1	136.00	136.00	
TOTAL FIXED COSTS (TFC)				475.59	
TOTAL COSTS (TC)	\$			1333.65	

Table 9: Estimated Total Annual Fixed Machinery Costs – Medium Input Pecan

Acres	50								
Interest	6.5%								
		% Use	Purchase	Salvage	Yrs.				
Item		for Crop	Price	Value	Life	Deprec.	Int	Tax&Ins	FC/Ac
Herbicide strip Sprayer		100%	300	60	10	24	12	3	0.76
Bess Sprayer		100%	15000	3000	10	1200	585	126	38.22
Bush Hog Mower (20')		100%	4000	800	10	320	156	34	10.19
Dump wagon		100%	2000	400	10	160	78	17	5.10
John Deere Tractor 5095M (hp 80)		100%	24000	4800	20	960	936	202	41.95
Dodge Truck (1/2 ton)		100%	24000	4800	10	1920	936	202	61.15
Weiss Blower		100%	4000	800	10	320	156	34	10.19
Weiss Sweeper		100%	4,000	800	10	320	156	34	10.19
Ramcer Harvester		100%	8,000	1600	10	640	312	67	20.38
Rouse Limb rake		100%	2000	400	10	160	78	16.8	5.096
Chain saw		100%	300	60	10	24	11.7	2.52	0.7644
Pressure washer		100%	250	50	10	20	9.75	2.1	0.637
Fuel tank (200 gals)		100%	900	180	10	72	35.1	7.56	2.2932
Pole saw		100%	250	50	10	20	9.75	2.1	0.637
Air Compressor		100%	299	60	10	23.92	11.661	2.5116	0.7619
Grinder (hand tools etc.)		100%	1000	200	10	80	39	8.4	2.548
Total Investment			\$ 90,299	18059.8		6264	3522	759	211
							6264		
							3522		
							759		
TOTAL FIXED COSTS							10544		
FIXED COSTS per ACRE							\$ 210.88		

* These prices are for new equipment. Used equipment could be purchased.

**Only one sweeper is required for 100 acres or less.

Table 10: Drip Irrigation – Medium Input Pecans Production

BASED ON			50	ACRES			
SPACING		40	by	40			
INTEREST ON INVESTMENT CAPITAL					6.50%		
TAXES & INSURANCE					0.015		
DEPTH OF WELL IN FEET					120		
INVESTMENT AND ANNUAL FIXED COSTS							
			NEW COST	YRS.LIFE	DEPREC.	INTEREST	TAX & INS.
PIPE & FITTINGS			10300	20	515	335	77
Tubing & Emitters Inline			4750	10	475	154	36
WELL (4")			2160	25	86	70	16
Pump & Motor			11000	15	733	358	83
Filter & Auto			1300	10	130	42	10
Misc.			885	20	44	29	7
Installation			40000	20	2000	1300	300
TOTAL INVESTMENT			70395		3984	2288	528
TOTAL ANNUAL FIXED COSTS							6800
ANNUAL FIXED COSTS PER ACRE							136.00
OPERATING COSTS							
MOTOR SIZE (HP)					8		
REPAIRS					743		
ANNUAL PUMPING HOURS					1820		
ELECTRICITY							
Demand (standby charge) per YEAR					90		
Rate \$ per KWH					0.08		
ANNUAL ENERGY COST					905		
ANNUAL ENERGY COST PER ACRE							18.09
OPERATING COST PER ACRE PER YEAR							32.94
TOTAL ANNUAL COSTS PER ACRE							168.94

Satsuma – Fresh Market

Table 1: Yields and Prices for Satsuma Production

Items	Best	Opt	Median	Pess	Worst
*Yield (lbs.)	35000	27500	20000	12500	5000
*Price per lb.	1.50	1.25	1.00	0.75	0.50

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Satsuma Production

Item			Unit	Quant.	Price	\$Amt/ac
Variable Costs						
	Fertilizer (10-10-10)		Acre	1000.00	0.30	300.00
	Micro-nutrient sprays		Acre	2.00	10.00	20.00
	Pre-emergence Herbicides		Acre	2.00	40.00	80.00
	Post emergent herbicides		Acre	5.00	10.00	50.00
	Insecticides		Acre	5.00	15.00	75.00
	Fungicides		Acre	2.00	50.00	100.00
	Trees replacement (15 x 20)		Tree	5.00	15.00	75.00
	Tissue Analysis		Acre	1.00	35.00	35.00
	Soil Analysis		Acre	1.00	6.00	6.00
	Scouting		Acre	1.00	75.00	75.00
	Labor		Hrs	200.00	10.00	2000.00
	Fuel		Acre	1.00	29.98	29.98
	Repair & Maintenance		Acre	1.00	37.00	37.00
	Irrigation/Frost Protection		Acre	1.00	1413.32	1413.32
	Interest on operation			2882.98	0.065	187.39
	Total Pre-Variable Costs (P-HVC)				4483.70	4483.70
	Total Pre-Variable Costs (P-HVC)					4483.70
Harvest and Marketing Costs						
			Unit	Quant.	Price	\$Amt/ac
	Harvesting & hauling		Acre	19000.00	0.10	1900.00
	Packing & cooling		Acre	19000.00	0.01	190.00
	Total Harvesting and Marketing Costs			\$		2090.00
	Total Variable Costs					6573.70
FIXED COST						
			Unit	Quant.	Price	\$Amt/ac
	Tractor & Equipment		Acre	1.00	527.75	527.75
	Irrigation		Acre	1.00	2077.93	2077.93
	Recaptured Establishment Costs		Acre	1.00	2054.86	2054.86
	Overhead and Management		Acre	4484	0.15	672.55
	Total Fixed Costs (\$)			\$		5333.10
	Total budgeted cost per acre (\$)					11906.80

Table 3: Break-Even (BE) Costs Per Lb.

BE pre-harvest variable cost per lb. (\$).	0.22
BE harvest & marketing cost per lb. (\$).	0.10
BE fixed costs per lb. (\$)	0.27
BE Yields (Lbs.).	11,907

Table 4: Sensitivity Rated Returns Over Cash Flow – Satsuma Production

	Best	Opt	Opt	Expected	Pess	Pess	Worst	
*Returns(\$)	20,653	16,466	12,280	8,093	3,907	-280	-4,466	
Chances	7%	16%	31%	50%				
Chances				50%	31%	16%	7%	
Chances for Profit =		83%	Base Budgeted Net Revenue (\$) =					8,093

Table 5: Price Sensitivity Returns Over Cash Flow – Satsuma Production

	Best	Opt.	Opt	Expected	Pess	Pess	Worst	% Chances of Profit
Price/lb	\$	\$	\$	19000	\$	\$	\$	
0.50	6,785	3,901	1,017	-1,867	-4697	-7,528	-10,358	37
0.75	13,533	10,053	6,573	3,093	-387	-3,867	-7,346	67
1.00	20,653	16,466	12,280	8,093	3,907	-280	-4,466	83
1.25	28,004	23,034	18,063	13,093	8,123	3153	-1,817	91
1.50	35,482	29,692	23,893	18,093	12,294	6,494	694	94

Table 6: 1st Year Estimated Establishment and Maintenance Costs for Satsuma Production

OPERATING COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Land prep 1/-	Acre	1.00	500.00	500.00	
Lime (DOL.)	Ton	1.00	30.00	30.00	
Fertilizer (10-10-10)	Acre	730.00	0.30	219.00	
Herbicides Pre-emergent	Acre	2.00	40.00	80.00	
Herbicides Post-emergent	Acre	2.00	10.00	20.00	
Insecticides	Acre	4.00	15.00	60.00	
Fungicides	Acre	0.00	50.00	0.00	
Trees (15 x 20)	Tree	145.00	15.00	2175.00	
Scouting	Acre	1.00	75.00	75.00	
Tissue analysis	Acre	1.00	35.00	35.00	
Soil analysis	Acre	1.00	6.00	6.00	
Labor	Hrs	70.00	10.00	700.00	
Fuel	Acre	1.00	29.98	29.98	
Repair & Maintenance	Acre	1.00	37.00	37.00	
Irrigation/Frost Protection	Acre	5.00	220.67	1103.36	
Interest on operation	Acre	3966.98	0.065	257.85	
Total Operating Costs	\$			4828.19	
FIXED COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Tractor & Equipment	\$	527.75	1.00	527.75	
Management Overhead	\$	4828.19	0.15	724.23	
Irrigation	Acre	1	1192.65	1192.65	
Total Fixed Costs				2444.63	
Total Establishment Costs				7272.82	

1/- Landprep vary significantly from \$0 - \$1,000 per acre.

Table 7: 2nd Estimated Annual Maintenance Cost – Satsuma - Production

OPERATING COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Fertilizer (10-10-10)	Acre	219.00	0.30	65.70	
Micro-nutrient sprays	Acre	1.00	10.00	10.00	
Pre-emergence Herbicides	Acre	2.00	40.00	80.00	
Post emergent herbicides	Acre	5.00	10.00	50.00	
Insecticides	Acre	4.00	15.00	60.00	
Fungicides	Acre	0.00	50.00	0.00	
Trees replacement (15 x 20)	Tree	5.00	15.00	75.00	
Tissue Analysis	Acre	1.00	35.00	35.00	
Soil Analysis	Acre	1.00	6.00	6.00	
Scouting	Acre	1.00	75.00	75.00	
Labor	Hrs	104.00	10.00	1040.00	
Fuel	Acre	1.00	29.98	29.98	
Repair & Maintenance	Acre	1.00	37.00	37.00	
Irrigation/Frost Protection	Acre	5.00	220.67	1103.36	
Interest on operation	Acre	1563.68	0.065	101.64	
Total Pre-Variable Costs	\$			2768.68	
FIXED COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Tractor & Equipment	Acre	1.00	527.75	527.75	
General Overhead	Acre	2768.68	0.15	415.30	
Irrigation	Acre	1.00	1192.65	1192.65	
TOTAL FIXED COSTS (TFC) (\$)				2135.70	
TOTAL COSTS (TC) (\$)				4904.38	

Table 8: 3rd Estimated Annual Maintenance Cost – Satsuma Production

OPERATING COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Fertilizer (10-10-10)	Acre	438.00	0.30	131.40	
Micro-nutrient sprays	Acre	2.00	10.00	20.00	
Pre-emergence Herbicides	Acre	2.00	40.00	80.00	
Post emergent herbicides	Acre	5.00	10.00	50.00	
Insecticides	Acre	4.00	15.00	60.00	
Fungicides	Acre	0.00	50.00	0.00	
Trees replacement (15 x 20)	Tree	5.00	15.00	75.00	
Tissue Analysis	Acre	1.00	35.00	35.00	
Soil Analysis	Acre	1.00	6.00	6.00	
Scouting	Acre	1.00	75.00	75.00	
Labor	Hrs	200.00	10.00	2000.00	
Fuel	Acre	1.00	29.98	29.98	
Repair & Maintenance	Acre	1.00	37.00	37.00	
Irrigation/Frost Protection	Acre	5.00	220.67	1103.36	
Interest on operation		2599.38	0.065	168.96	
Total Pre-Variable Costs				3871.70	
FIXED COSTS	UNIT	QUANT.	PRICE	AMOUNT	YOURS
Tractor & Equipment	Acre	1.00	527.75	527.75	
General Overhead	Acre	3871.70	0.15	580.75	
Irrigation	Acre	1.00	1192.65	1192.65	
TOTAL FIXED COSTS (TFC)	\$			2301.16	
TOTAL COSTS (FC)	\$			6172.85	

Table 9: Estimated Total Annual Fixed Machinery Costs – Satsuma Production

Acres	5.00							
Interest	0.07							
Item	% Use for Crop	Purchase Price	Salvage Value	Yrs. Life	Deprec.	Int.	Tax & Ins	FC/Ac
Herbicide strip Sprayer	33%	300	60	10	8	4	1	2.52
Bess Sprayer	33%	15000	3000	10	396	193	42	126.13
Bush Hog Mower (20')	33%	4000	800	10	106	51	11	33.63
Dump wagon	33%	2000	400	10	53	26	6	16.82
John Deere Tractor 5095M (hp 80)	33%	24000	4800	20	317	309	67	138.44
Dodge Truck (1/2 ton)	33%	24000	4800	10	634	309	67	201.80
Grinder (hand tools etc.)	33%	1000	200	10	26.4	12.87	2.772	8.4084
Total Investment		\$ 70,300	14060		1539	905	195	528
TOTAL FIXED COSTS						\$2,639		
FIXED COSTS per ACRE						\$ 527.75		

* These prices are for new equipment. Used equipment could be purchased.

Table 10: Drip Irrigation – Satsuma Production

BASED ON				5	ACRES		
SPACING		40	by	40			
INTEREST ON INVESTMENT CAPITAL					6.50%		
TAXES & INSURANCE					0.015		
DEPTH OF WELL IN FEET					120		
INVESTMENT AND ANNUAL FIXED COSTS							
				NEW COST	YRS.LIFE	DEPREC.	INTEREST TAX & INS.
PIPE & FITTINGS				10300	20	515	335 77
Tubing & Emitters Inline				475	10	48	15 4
WELL (4")				1440	25	58	47 11
Pump & Motor				11000	15	733	358 83
Filter & Auto				130	10	13	4 1
Misc.				700	20	35	23 5
Installation				40000	20	2000	1300 300
TOTAL INVESTMENT				64045		3401	2081 480
TOTAL ANNUAL FIXED COSTS							5963
ANNUAL FIXED COSTS PER ACRE							1192.65
OPERATING COSTS							
MOTOR SIZE (HP)						8	
REPAIRS						199	
ANNUAL PUMPING HOURS						1820	
ELECTRICITY							
Demand (standby charge) per YEAR						90	
Rate \$ per KWH						0.08	
ANNUAL ENERGY COST						905	
ANNUAL ENERGY COST PER ACRE							180.93
OPERATING COST PER ACRE PER YEAR							220.67
TOTAL ANNUAL COSTS PER ACRE							1413.32

Blackberry – Fresh Market

Table 1: Yields and Prices: Blackberry Production

	Best	Opt	Median	Pess	Worst
*Yield (lbs.)	10000	9000	8000	7000	6000
*Price per lb.	3.50	3.25	3.00	2.75	2.50

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of

Blackberry Production

Variable Costs	Unit	Quant.	Price	\$Amt/Ac	Your
Fertilizers					
Lime sulfur spray	Gal	3.00	30.00	90.00	_____
Ammonium Nitrate	Cwt	11.00	30.00	330.00	_____
Fert 10-10-10	Cwt	6.00	35.00	210.00	_____
Weed Control (4' Band)				0.00	_____
Pre-emergence	Acre	2.00	30.00	60.00	_____
Post-emergence	Acre	2.00	15.00	30.00	_____
Tractor & sprayer	Hrs	2.00	12.00	24.00	_____
Labor	Hrs	4.00	12.00	48.00	_____
Insect & Disease Control				0.00	_____
Insecticides	Acre	12.00	10.00	120.00	_____
Fungicides	Acre	10.00	60.00	600.00	_____
Tractor & sprayer	Hrs	13.00	12.00	156.00	_____
Labor	Acre	13.00	12.00	156.00	_____
Pruning					_____
Pruning (manual) (3' X 12')	Plants	1210.00	0.22	266.20	_____
Mechanical topping	Acre	1.00	75.00	75.00	_____
Irrigation	Acre	1.00	140.00	140.00	_____
Interest on Operation. Costs	\$	2305.20	0.07	149.84	_____
Total Variable Costs				2455.04	_____
Pre-Harvest Variable Costs				2455.04	_____
Harvesting & Marketing Costs					
Harvesting	lbs	7600.00	1.00	7600.00	_____
Custom Packing	lbs	7600.00	0.94	7144.00	_____
Cooling, Handling & Brokerage (15%)	lbs	7600.00	0.15	1140.00	_____
Total Harvesting & Marketing Costs				15884.00	_____
Total Harvesting and Marketing Costs				15884.00	_____
Total Variable, Harvesting & Marketing Costs				18339.04	_____

FIXED COSTS

Tractor & Equipment	Acre	1.00	1521.30	1521.30	_____
Overhead & Management	\$	2455.04	0.15	368.26	_____
Irrigation	Acre	1.00	857.42	857.42	_____
Total Fixed Costs				2746.97	=====
Total budgeted cost per acre				21086.01	=====

Table 3. Break-Even (BE) Costs Per lb. – Blackberry Production

BE Pre-harvest variable cost per lb. (\$)	0.31
BE Harvest & marketing cost per lb. (\$)	1.99
BE Fixed costs per lb. (\$)	0.47
BE Total budgeted cost per lb. (\$).	2.64
BE Yields (Lb.)	7029

Table 4. Sensitivity Rated Returns Over Cash Flow for Satsuma Production

	Best	Opt	Opt	Expected	Pess	Pess	Worst
*Returns(\$)	9,025	7,904	6,782	3,313	4,540	3,418	2,297
Chances	7%	16%	31%	85%			
Chances				15%	31%	16%	7%
CHANCES FOR PROFIT =	<u>99%</u>			BASE BUDGETED NET REVENUE =	<u>2,914</u>		

Table 5. Price Sensitivity Returns Over Cash Flow for Blackberry Production

								\$-Net Returns	% Chance of Profit
\$Price/lb.	Best	Opt	Opt	Expected	Pess	Pess	Worst		
Yield				7,600 lbs.					
\$2.50	4,759	3,726	2,694	3,131	628	-404	-1,437	-1086	79
\$2.75	6,964	5,836	4,708	3,313	2,335	1,088	-158	914	92
\$3.00	9,025	7,904	6,782	3,313	4,540	4,540	3,418	2297	99
\$3.25	11,210	10,027	8,844	3,313	6,478	5,295	4,112	4914	99
\$3.50	13,424	12,170	10,915	3,313	8,407	7,152	5,898	6914	99

Table 6. 1st Year Estimated Establishment and Maintenance Costs for Blackberry Production

Item	Unit	Quant.	Price	Amount	Your Cost
Land prep 1/					
Preplant Weed Control	Gal	2.50	36.00	90.00	
Landprep	Acre	1.00	1200.00	1200.00	
Planting					
Plants	Acre	1210.00	1.50	1815.00	
Planting labor	Acre	1210.00	0.15	181.50	
Trellis Installation					
				0.00	
Trellis (Shift trellis shown)	Acre	1.00	5000.00	5000.00	
Plastic	Roll	2.80	100.00	280.00	
Fumigation	Acre	1.00	800.00	800.00	
Drip tape	Ft	8700.00	0.02	174.00	
Fertilizers					
Lime (spread)	Ton	1.00	38.00	38.00	
Fert 10-10-10	cwt	6.00	30.00	180.00	
Ammonium Nitrate (34%)	cwt	11.00	30.00	330.00	
Weed Control					
				0.00	
Pre-emergence	Acre	2.00	30.00	60.00	
Post-emergence	Acre	2.00	20.00	40.00	
Tractor & sprayer	Hrs	4.00	12.00	48.00	
Labor	Hrs	4.00	12.00	48.00	
Insect & Disease Control					
				0.00	
Fungicide	Acre	8.00	40.00	320.00	
Herbicide	Acre	1.00	50.00	50.00	
Insecticide	Acre	2.00	12.00	24.00	
Tractor & sprayer	Acre	6.00	12.00	72.00	
Labor	Acre	6.00	12.00	72.00	
Pruning,triming, & tipping	Hrs	2.00	2000.00	4000.00	
Repair & Maint	Acre	1.00	30.00	30.00	
Irrigation	Acre	1.00	187.00	187.00	
Interest on Oper. Costs	\$	15039.50	0.07	977.57	
Total Operating Cost	\$			16017.07	
FIXED COSTS					
Tractor & Equipment	Acre	1.00	1521.30	1521.30	
Overhead & Management	\$	16017.07	0.15	2402.56	
Irrigation	Acre	1.00	857.42	857.42	
Total Fixed Costs				4781.28	
Total Establishment Costs				20798.35	

Table 7: 2nd Estimated Annual Maintenance Cost – Blackberry

Item	Unit	Quant.	Price	Amount	Your Cost
Fertilizers					
Liquid (10-5-5)	Acre	1.00	380.00	380.00	
N-P-K (10-10-10)	Cwt	6.00	30.00	180.00	
Ammonium Nitrate (34%)	Cwt	11.00	30.00	330.00	
Lime sulfur spray	Gal	8.00	12.00	96.00	
Weed Control				0.00	
Chemical	Acre	2.00	15.00	30.00	
Post-emergence	Acre	2.00	15.00	30.00	
Labor	Acre	4.00	12.00	48.00	
Insect & Disease Control				0.00	
Fungicide	Acre	10.00	40.00	400.00	
Insecticide	Acre	12.00	12.00	144.00	
Tractor & sprayer	Acre	12.00	12.00	144.00	
Labor	Acre	12.00	12.00	144.00	
Pruning	Acre	908.00	0.22	199.76	
Irrigation	Acre	1.00	187.00	187.00	
Interest on Oper. Costs	\$	2312.76	0.07	150.33	
Total Operating Costs				2463.09	
Harvesting & Marketing Costs					
Harvesting	lbs	2000.00	1.00	2000.00	
Custom Packing	lbs	1900.00	0.94	1786.00	
Clamshell package	each	1900.00	0.25	475.00	
Cooling, Handling & Brokerage (15%)	lbs	1900.00	0.15	285.00	
Total Harvesting & Marketing Costs				4546.00	
Fixed Costs					
Tractor and Equipment	Acre	1.00	1521.30	1521.30	
Overhead & Management	\$	2463.09	0.15	369.46	
Irrigation	Acre	1.00	857.42	857.42	
Total Fixed Costs				2748.18	
Gross Establishment Cost Per Acre				9757.27	
Less Return From Receipts				\$ 2000.00 3.00 6000.00	
Total Establishment Cost Per Acre				3757.27	

Table 8: 3rd Estimated Annual Maintenance Cost – Blackberry Production

ITEM	UNIT	QUANT.	PRICE	AMOUNT	Your Costs
Fertilizers					
Lime sulfur Spray - Liquid	Gal	7.00	10.00	70.00	
N-P-K (10-10-10)	Cwt	6.00	30.00	180.00	
Amm. Nitrate (34%)	Cwt	10.00	30.00	300.00	
Weed Control					
Gramazone	Acre	2.00	15.00	30.00	
Simazine 4L	Acre	1.00	5.00	5.00	
Poast Plus	Acre	1.00	5.00	5.00	
Surfactant Nn Ionic	Acre	1.00	2.00	2.00	
Labor	Acre	4.00	12.00	48.00	
Insect & Disease Control					
Fungicide	Acre	10.00	40.00	400.00	
Insecticide	Acre	12.00	7.00	84.00	
Bee hives	Acre	1.00	50.00	50.00	
Tractor & sprayer	Acre	12.00	12.00	144.00	
Labor	Acre	12.00	12.00	144.00	
Pruning	Acre	908.00	0.22	199.76	
Irrigation	Acre	1.00	187.00	187.00	
Interest on Oper. Costs	\$	1848.76	0.07	120.17	
Total Operations Costs	\$			1968.93	
Harvesting & Marketing Costs					
Harvesting	lbs	6000.00	1.00	6000.00	
Custom Packing	lbs	5700.00	0.94	5358.00	
Cooling, Handling & Brokerage (15%)	lbs	5700.00	0.15	855.00	
Clamshell package	each	5700.00	0.25	1425.00	
Total Harvesting & Marketing Costs				12213.00	
Total Variable Costs (VC)				14181.93	
FIXED COSTS					
Tractor and equipment	Acre	1.00	1521.30	1521.30	
Overhead & Management	\$	1968.93	0.15	295.34	
Irrigation	Acre	1.00	857.42	857.42	
Total Fixed Costs				2674.06	
Gross Establishment Cost per Acre				16855.99	
Total Gross Returns Per Acre		6000	3	18000.00	
Total Returns Per Acre				1144.01	

Table 9. Estimated Total Annual Fixed Machinery Costs – Blackberry Production

Item	Acres Interest	10 Percent Used	For Crop	Purchase Price	Salvage Value	Yrs. Life	Deprec.	Int	Tax&Ins	FC/Ac
Shielded herbicide Sprayer		100%		4000	800	5	640	156	34	82.96
Sprayer,airblast		100%		4000	800	5	640	156	34	82.96
Rotary Mower(5')		75%		1800	360	7	154	53	11	21.83
Tractor (95hp)		100%		60000	12000	8	6000	2340	504	884.40
Truck		75%		40000	8000	10	2400	1170	252	382.20
Fertilizer Spreader (Side-to-side)		100%		4000	800	10	320	156	34	50.96
Harrow (5')		100%		1100	220	10	88	43	9	14.01
Handsprayer (back pack)		100%		80	16	4	16	3	1	1.98
Total Investment				\$ 114,980	22996		10258	4077	878	1521
							10258	4077	878	
Total Fixed Costs										15213
FIXED COSTS per ACRE										\$ 1,521.30

Table 10: Drip Irrigation – Blackberry Production

BASED ON		10 ACRES
SPACING	10 by	10
INTEREST ON INVESTMENT CAPITAL		6.50%
TAXES & INSURANCE		0.015
DEPTH OF WELL IN FEET		600

INVESTMENT AND ANNUAL FIXED COSTS

	NEW COST	YRS.LIFE	DEPREC.	INTEREST	TAX & INS
Irrigation Accessories	9000	20	450	293	68
Injector System (+ Labor)	0	10	0	0	0
Injector System	5000	10	500	38	38
Well (4") (50 gal/minute/acre)	9800	25	392	319	74
Fertilizer tank (1500 gallon)	1000	15	67	33	8
MISC.		20	0	0	0
Installation and Labor	6500	20	325	211	49
TOTAL INVESTMENT	31300		1734	892	235

TOTAL ANNUAL FIXED COSTS 2861

ANNUAL FIXED COSTS PER ACRE 286.07

OPERATING COSTS

MOTOR SIZE (HP)	5	
REPAIRS	800	
ANNUAL PUMPING HOURS	1080	
ELECTRICITY		
Demand (standby charge) per YEAR	0	
Rate \$ per KWH	0.12	
ANNUAL ENERGY COST	600	
ANNUAL ENERGY COST PER ACRE		<u>60.00</u>
OPERATING COST PER ACRE PER YEAR		<u>140.00</u>

TOTAL ANNUAL COSTS PER ACRE 426.07

Blueberry – Southern Highbush in Soil

Table 1: Yields and Prices: Blueberry – Southern Highbush in Soil Production

			Best	Opt	Median	Pess	Worst
*Yield (lbs)			9000	8000	7000	6000	5000
*Price per lb.			3.50	3.25	3.00	2.75	2.50

Table 2. Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Blueberry – Southern Highbush Production

Item	Application	Unit	Quant.	Price	\$Amt/ac	Yours
Fertilizers						
Fertilizer (Fertigation)	yr	Gal	85.00	1.86	158.10	_____
Weed Control (4' Band)						
Pre-emergence	2/yr	Acre	2.00	50.00	100.00	_____
Post-emergence	3/yr	Acre	3.00	15.00	45.00	_____
Tractor & sprayer	4/yr	Hrs	4.00	12.00	48.00	_____
Labor	4/yr	Hrs	4.00	9.00	36.00	_____
Insect & Disease Control						
Insecticides	5/yr	Acre	5.00	7.00	35.00	_____
Fungicides	8/yr	Acre	8.00	46.13	369.00	_____
Tractor & sprayer	13/yr	Hrs	13.00	12.00	156.00	_____
Labor	13/yr	Acre	13.00	9.00	117.00	_____
Pruning						
Pruning (manual) (3' X 12')	1/yr	Plants	1210.00	0.22	266.20	_____
Mechanical topping	1/yr	Acre	1.00	75.00	75.00	_____
Irrigation		Acre	1.00	140.00	140.00	_____
Interest on Oper. Costs		\$	1545.30	0.07	100.44	_____
Total Variable Costs					1645.74	_____
Pre-Harvest Variable Costs					1645.74	_____
Harvesting & Marketing Costs						
Harvesting		lbs	7000.00	1.00	7000.00	_____
Custom Packing		lbs	6650.00	0.94	6251.00	_____
Cooling, Handling & Brokerage (15%)		lbs	6650.00	0.15	997.50	_____

Total Harvesting & Marketing Costs					14248.50
Total Harvesting and Marketing Costs					14248.50
Total Variable, Harvesting & Marketing Costs					15894.24
FIXED COSTS					
Tractor & Equipment	Acre	1.00	1521.30	1521.30	
Overhead & Management	\$	1645.74	0.15	246.86	
Irrigation	Acre	1.00	857.42	857.42	
Total Fixed Costs					2625.58
Total budgeted cost per acre					18519.82

Table 3. Break-Even (BE) Costs Per lb. – Blueberry – Southern Highbush Production

BE Pre-harvest variable cost per lb. (\$)	0.24
BE Harvest & marketing cost per lb. (\$)	2.04
BE Fixed costs per lb. (\$)	0.47
BE Total budgeted cost per lb. (\$).	2.65
BE Yields (Lb.)	6173

Table 4: Sensitivity Rated Returns Over Cash Flow for Blueberry – Southern Highbush Production

	Best	Opt	Opt	Expected	Pess	Pess	Worst
*Returns(\$)	8,103	7,104	6,105	3,313	4,107	3,108	2,108
Chances	7%	16%	31%	82%			
Chances				18%	31%	16%	7%
CHANCES FOR PROFIT =		99%	BASE BUDGETED NET REVENUE =				2,480

Table 5. Price Sensitivity Returns Over Cash Flow for Blueberry - SH Production

								\$-Net	%
Prices	Best	Opt	Opt	Expected	Pess	Pess	Worst	Returns	Chances
Yield				6,650					
2.50	4,322	3,416	2,511	3,313	700	-205	-1,110	-1020	81
2.75	6,191	5,246	4,301	3,313	2,411	1,466	520	730	96
3.00	8,103	7,104	6,105	3,313	4,107	3,108	2,106	2480	99
3.25	10,051	8,986	7,921	3,313	5,791	4,726	3,661	4230	99
3.50	12,029	10,888	9,747	3,313	7,465	6,324	5,183	5980	99

Table 6. 1st Year Estimated Establishment and Maintenance Costs for Blueberry – South Highbush Production

Item	Unit	Quant.	Price	Amount	Your Cost
Land prep 1/					
Preplant Weed Control	Gal	2.50	36.00	90.00	
Stumping, pushing, burning					
2/					
Chopping	Acre	1.00	1200.00	1200.00	
Phosphate (DAP or MAP)	lbs	150.00	0.13	19.50	
Copper sulfate	lbs	4.00	2.00	8.00	
Harrowing	Acre	3.00	50.00	150.00	
Bedding	Acre	1.00	150.00	150.00	
Breaking aisles	Acre	1.00	75.00	75.00	
Ditching and drainage	Acre	1.00	130.00	130.00	
Milled Pine Bark	Ton	20.00	40.00	800.00	
Planting					
Plants (3' x 12')	Acre	1210.00	2.30	2783.00	
Planting labor	Acre	1210.00	0.20	242.00	
				0.00	
Fertilizers					
Fertilizer (liquid)	Gal	64.00	1.86	119.04	
Weed Control					
				0.00	
Pre-emergence	Acre	2.00	30.00	60.00	
Post-emergence	Acre	2.00	20.00	40.00	
Tractor & sprayer	Hrs	4.00	12.00	48.00	
Labor	Hrs	4.00	9.00	36.00	
Insect & Disease Control					
				0.00	
Fungicide	Acre	4.00	26.43	105.71	
Insecticide	Acre	2.00	12.00	24.00	

Tractor & sprayer	Acre	6.00	12.00	72.00	
Labor	Acre	6.00	9.00	54.00	
Pruning	Hrs	3.00	9.00	27.00	
Irrigation	Acre	1.00	187.00	187.00	
Interest on Oper. Costs	\$	6570.25	0.07	427.07	
Total Operating Cost	\$			6997.32	
FIXED COSTS					
Tractor & Equipment	Acre	1.00	1521.30	1521.30	
Overhead & Management	\$	6997.32	0.15	1049.60	
Irrigation	Acre	1.00	857.42	857.42	
Total Fixed Costs				3428.32	
Total Establishment Costs				10425.63	

Table 7: 2nd Estimated Annual Maintenance Cost – Blueberry – SH Production

Item	Appl	Unit	Quant.	Price	Amount	Yours
Fertilizers						
Fertilizer (Liquid)	yr	Gal	85.00	1.86	158.10	
Weed Control						
Pre-emergence	2/yr	Acre	2.00	30.00	60.00	
Post-emergence	2/yr	Acre	2.00	20.00	40.00	
Labor	4/yr	Acre	4.00	9.00	36.00	
Insect & Disease Control						
Fungicide	8/yr	Acre	8.00	46.13	369.00	
Insecticide	4/yr	Acre	4.00	12.00	48.00	
Tractor & sprayer	12/yr	Acre	12.00	12.00	144.00	
Labor	12/yr	Acre	12.00	9.00	108.00	
Pruning	1/yr	Acre	1210	0.22	266.20	
Irrigation	yr	Acre	1.00	187	187.00	
Interest on Oper. Costs		\$	1416	0.07	92.06	
Total Operating Costs					1508.36	
Harvesting & Marketing Costs						
Harvesting		lbs	1700	1.00	1700.00	
Custom Packing		lbs	1615	0.94	1518.10	
Cooling, Handling & Brokerage (15%)		lbs	1615	0.15	242.25	

Total Harvesting & Marketing Costs					3460.35	
Fixed Costs						
Tractor and Equipment	Acre	1.00	1521		1521.30	
Overhead & Management	\$	1508	0.15		226.25	
Irrigation	Acre	1.00	857		857.42	
Total Fixed Costs	\$				2604.97	
Gross Establishment Cost Per Acre	\$				7573.68	
Less Return From Receipts	\$	1700	3.00		5100.00	
Total Establishment Cost Per Acre					2473.68	

Table 8: 3rd Estimated Annual Maintenance Cost – Blueberry – SH Production

ITEM	Appl	UNIT	QUANT.	PRICE	AMOUNT	Years
Fertilizers						
Fertilizer 1/	Yr	Gal	85.00	1.86	158.10	
Weed Control					0.00	
Pre-emergence	2/yr	Acre	2.00	30.00	60.00	
Post-emergence	2/yr	Acre	2.00	20.00	40.00	
Labor	4/yr	Acre	4.00	9.00	36.00	
Insect & Disease Control					0.00	
Fungicide	8/yr	Acre	8.00	46.13	369.00	
Insecticide	4/yr	Acre	4.00	7.00	28.00	
Tractor & sprayor	12/yr	Acre	12.00	12.00	144.00	
Labor	12/yr	Acre	12.00	9.00	108.00	
Pruning	1/yr	Acre	1210.00	0.22	266.20	
Irrigation		Acre	1.00	187.00	187.00	
Interest on Oper. Costs		\$	1396.30	0.07	90.76	
Total Operations Costs		\$			1487.06	
Harvesting & Marketing Costs						
Harvesting		lbs	4000.00	1.00	4000.00	
Custom Packing		lbs	3800.00	0.94	3572.00	
Cooling, Handling & Brokerage (15%)		lbs	3800.00	0.15	570.00	
Total Harvesting & Marketing Costs					8142.00	
Total Variable Costs (VC)					9629.06	

FIXED COSTS					
Tractor and equipment	Acre	1.00	1521.30	1521.30	
Overhead & Management	\$	1487.06	0.15	223.06	
Irrigation	Acre	1.00	857.42	857.42	
Total Fixed Costs				2601.78	
Gross Establishment Cost per Acre				12230.84	
Total Gross Returns Per Acre		4000	3	12000.00	
Total Establishment Cost/ Returns Per Acre				230.84	

Table 9: Estimated Total Annual Fixed Machinery Costs – Blueberry – SH Production

Acres Interest	Item	10	Percent	Purchase Price	Salvage Value	Yrs. Life	Deprec.	Int	Tax&Ins	FC/Ac	
		6.5%	Used For Crop								
	Shielded herbicide Sprayer		100%	4000	800	5	640	156	34	82.96	
	Sprayer,airblast		100%	4000	800	5	640	156	34	82.96	
	Rotary Mower(5')		75%	1800	360	7	154	53	11	21.83	
	Tractor (95hp)		100%	60000	12000	8	6000	2340	504	884.40	
	Truck		75%	40000	8000	10	2400	1170	252	382.20	
	Fertilizer Spreader (Side-to-side)		100%	4000	800	10	320	156	34	50.96	
	Harrow (5')		100%	1100	220	10	88	43	9	14.01	
	Handsprayer (back pack)		100%	80	16	4	16	3	1	1.98	
Total Investment				\$ 114,980	22996		10258	4077	878	1521	
							10258	4077	878		
Total Fixed Costs							15213				
FIXED COSTS per ACRE							\$ 1,521.30				

Table 10: Drip Irrigation: Blueberry – Southern Highbush in Soil Production

BASED ON **10** ACRES
 SPACING **10** By **10**
 INTEREST ON INVESTMENT
 CAPITAL 6.50%

INVESTMENT AND ANNUAL FIXED COSTS

	NEW COST	YRS.LIFE	DEPREC.	INTEREST	TAX & INS.
Irrigation Accessories	9000	20	450	293	68
Injector System (+ Labor)	0	10	0	0	0
Injector System	5000	10	500	38	38
Well (4") (50 gal/minute/acre)	9800	25	392	319	74
Fertilizer tank (1500 gallon)	1000	15	67	33	8
MISC.		20	0	0	0
Installation and Labor	6500	20	325	211	49
TOTAL INVESTMENT	31300		1734	892	235

TOTAL ANNUAL FIXED COSTS 2861

ANNUAL FIXED COSTS PER ACRE 286.07

OPERATING COSTS

MOTOR SIZE (HP)	5
REPAIRS	800
ANNUAL PUMPING HOURS	1080
ELECTRICITY	
Demand (standby charge) per YEAR	0
Rate \$ per KWH	0.12
ANNUAL ENERGY COST	600
ANNUAL ENERGY COST PER ACRE	60.00
OPERATING COST PER ACRE PER YEAR	<u><u>140.00</u></u>
TOTAL ANNUAL COSTS PER ACRE	<u><u>426.07</u></u>

Muscadine Grapes

Table 1: Year 1- Production Using Single Curtain Trellis System and Irrigation

Operation/Input	Unit	Quant	Equip & Power Costs	Material Costs	Labor Costs	Total Costs	Your Cost
Weed control							
Sprayer (BC & Band)	12 ft.	3	3.01		18.45	21.46	_____
Glyphosate	gal	0.6		25.17		25.17	_____
Fusilade DX	Pt.	0.75		18.94		18.94	_____
Surfactant Non Ionic	Pt.	0.75		1.28		1.28	_____
Gramoxone Inteon	Pt.	2		8.83		8.83	_____
Mark Rows							
Hand labor	Hr.	1			8.00	8.00	_____
Soil test	each	1		6.62		6.62	_____
Lime	ton	2		83.90		83.90	_____
Hand labor	Hr.	0.6			4.80	4.80	_____
Chisel plow	8 Ft	1	2.48		2.26	4.74	_____
Disk harrow	6 Ft	1	2.22		3.38	5.61	_____
Sub-soiler	1 shank	3	28.60		33.15	61.75	_____
Planting							
Trailer Utility	10 ft.		3.51		6.15	9.66	_____
Muscadine vine	each	181		904.69		904.69	_____
Plastic twine	each	181		19.67		19.67	_____
Hand labor	Hr.	4.5			36.00	36.00	_____
Build Trellis Grapes							
End Post Wine Grapes	each	24		215.67		215.67	_____
Wood post 3.5' x 6.5'	each	181		590.02		590.02	_____
Wire-wine grape	Ft.	3630		307.66		307.66	_____
Grow Tubes	each	181		145.54		145.54	_____
Wire links	each	12		28.03		28.03	_____
Wire vises	each	24		43.03		43.03	_____
Trailer Utility	10 ft.		3.51		6.15	9.66	_____
Hand labor	Hr.	100			800.00	800.00	_____
Irrigation Set up							
Gage wire	Ft.	3630		106.89		106.89	_____
Trickles	each	181		88.50		88.50	_____
Tubing 5/4"	Ft.	13311		289.28		289.28	_____
Hand labor	Hr.	50			400.00	400.00	_____

Utility Vehicle	4 x 4	2	3.89	5.10	8.99	_____
Hand labor	Hr.	2		16.00	16.00	_____
Amm. Nitrate (34%)	cwt	0.5		15.46	15.46	_____
Irrigate						_____
Hand Labor	Hr.	10		80.00	80.00	_____
1/2 of water (100 gal.)	gal	27		8.35	8.35	_____
Mow between rows						_____
Rotary Cutter	6 ft.	6	23.84	35.18	59.01	_____
Side Dresser (1R 3 ft.)	ft.	1	8.34	8.67	17.01	_____
Amm. Nitrate (34%)	cwt	1		30.91	30.91	_____
Train & Stake						_____
Hand Labor	Hr.	68		544.00	544.00	_____
Spray (Broadcast)	27'	1	0.48	0.64	1.12	_____
Rovral 4F	Pt.	1.75		34.45	34.45	_____
Total Costs			79.90	2972.89	2008	5061

*Site preparation

4280.20

Include weed control in Feb.,
mark rows, planting, building trellis, irrigation set up

Table 2. 2nd Estimated Annual Maintenance Cost Using Single Curtain Trellis System and Irrigation – Muscadine Production

Operation/Input	Unit	Quantity	Equipment	Material	Labor	Total	Your
			Power Cost	Costs	Costs	Costs	Costs
Pruning & Training							
Hand Labor	hr	48			384.00	384.00	
Mow between rows							
Rotary Cutter	6 ft	7	27.81		41.04	68.85	
Trellis repair							
Hand Labor	hr	2			16.00	16.00	
Weed control							
Sprayer (BC & Band)	12 ft	6	6.02		36.90	42.92	
Casaron 4G	lb	5		11.65		11.65	
Gramoxone Inteon	pt	10		44.16		44.16	
Replant Grapes							
Hand Labor	hr	2			16.00	16.00	
Spray(Broadcast)							
Liquid lime Sulfur	gal	10	0.48		0.48	0.96	
Utility Vehicle							
Hand Labor	4 x 4	2	3.89		5.10	8.99	
Hand Labor	hr	2			16.00	16.00	
Amm. Nitrate (34%)	cwt	2		61.82		61.82	
Irrigate							
Hand Labor	hr	12			96.00	96.00	
1/2 of water needed	100 ga	41.5		12.83		12.83	
Side Dresser							
Amm. Nitrate (34%)	1R 3 ft	1	8.34		8.67	17.01	
Amm. Nitrate (34%)	cwt	1		30.91		30.91	
Sprayer (BC & Band)							
Malathion 57 EC	12 ft	2	2.01		12.30	14.31	
Malathion 57 EC	pt	3		14.01		14.01	
Total Costs							
			48.55	301.34	632.50	982.38	

Table 3. 3rd Estimated Annual Maintenance Cost Using Single Curtain Trellis System and Irrigation – Muscadine Production

Operation/Input	Unit	Quantity	Equipment & Power Costs	Materials Costs	Labor Costs	Total Costs	Your Costs
Pruning & Training							
Hand Labor	Hr.	60			480.00	480.00	
Mow between rows							
Rotary Cutter	6 ft.	7	27.81		41.04	68.85	
Trellis repair							
Hand Labor	Hr.	2			16.00	16.00	
Utility Vehicle							
Hand Labor	4 x 4	2	3.89		5.10	8.99	
Hand Labor	Hr.	2			16.00	16.00	
Amm. Nitrate (34%)	cwt	3		91.27		91.27	
Irrigate							
Hand Labor	Hr.	12			96.00	96.00	
1/2 of water (100gl)	gal	55		16.73		16.73	
Side Dresser (1R 3ft)							
Hand Labor	ft	1	8.34		8.67	17.01	
Amm. Nitrate (34%)	cwt	1.5		45.64		45.64	
Weed control							
Sprayer (BC & Band)	12 ft.	6	6.02		36.90	42.92	
Gramoxone Inteon	Pt.	12		52.16		52.16	
Sprayer (BC & Band)							
Imidan 70 WSB	12 ft.	3	3.01		18.45	21.46	
Imidan 70 WSB	lb	4		40.33		40.33	
Danitol 2.4 EC	oz	10		14.67		14.67	
Harvest Muscadine							
Hand Labor	hr	50			400.00	400.00	
Muscadine (lug)		151		697.32		697.32	
Fruit gathering							
Trailer Fruit 4'x6'		1	1.59		10.25	11.84	
			50.65	958.12	1128.42	2137.19	

Table 4. Fourth Year Estimated Annual Maintenance Cost Using Single Curtain Trellis System and Irrigation – Muscadine Production

Operation/Input	Unit	Quantity	Equipment & Power Costs	Materials Costs	Labor Costs	Total Costs	Your Costs
Pruning & Training							
Hand Labor	Hr.	60			480.00	480.00	_____
Mow betrows							
Rotary Cutter (6)	ft.	7	27.81		41.04	68.85	_____
Trellis repair							
Hand Labor	Hr.	2			16.00	16.00	_____
Utility Vehicle							
4x4		2	3.89		5.10	8.99	_____
Hand Labor	Hr.	2			16.00	16.00	_____
Amm. Nit (34%)	cwt	3		91.27		91.27	_____
Irrigate							
Hand Labor	Hr.	12			96.00	96.00	_____
1/2 of water	gal	100		18.56		18.56	_____
Spot Spray							
Sprayer (BC & Wand)	12 ft.	2	2.01		12.30	14.31	_____
Glyphosate 3lb a.e.	Pt.	4		15.17		15.17	_____
Side Dresser (1R 3ft.)							
Ft.		1	8.34		8.67	17.01	_____
Amm. Nit. (34%)	cwt	2.5		76.06		76.06	_____
Weed control							
Sprayer (BC&W)	12 ft	6	6.02		36.90	42.92	_____
Gramoxone Int.	12 pt	12		52.16		52.16	_____
Sprayer (BC&W)							
12 ft		2	2.01		12.30	14.31	_____
Imidan 70 WSB	Lb.	4		40.33		40.33	_____
Danitol 2.4 EC	Oz.	10		14.67		14.67	_____
Harvesting							
Hand Labor	Hr.	150			1200.00	1200.00	_____
Muscadine (lug)		128		591.10		591.10	_____
Fruit gathering							
Trailer Fruit 4'x6'		13	20.63		133.25	153.88	_____
Total Costs			70.70	899.33	2057.57	3027.59	_____

Table 5. Estimated Equipment and Power, Material and labor Costs Using Single Trellis System – Muscadine Grapes

Year	Equipment & Power Costs	Materials Costs	Labor Costs	Total Costs	Your Costs
one	79.90	2972.89	2007.93	5060.71	
two	48.55	301.34	632.50	982.38	
three	50.65	958.12	1128.42	2137.19	
Four	70.70	899.33	2057.57	3027.59	

We assume the total annual costs/per from year five to year 20 is \$3,027.59

Table 6. Yields Sensitivity Analysis of Return on Investment (ROI) – Entries are in percentage (Tons/Acre)

Price/Yield	7.00	7.50	8.00	8.50	9.00	9.50
350.00	(28.71)	(23.72)	(18.73)	(13.75)	(8.76)	(3.77)
400.00	(18.52)	(12.82)	(7.12)	(1.42)	4.28	9.98
450.00	(8.34)	(1.93)	4.49	10.90	17.31	23.72
500.00	1.85	8.97	16.10	23.22	30.35	37.47
550.00	12.03	19.87	27.70	35.54	43.38	51.22
600.00	22.21	30.76	39.31	47.86	56.41	64.96

Table 7: Pay Back Period Sensitivity Analysis of Breakeven Year - Yields (Ton/Acre)

Price/Yield	7.00	7.50	8.00	8.50	9.00	9.50
350.00	>20	>20	>20	>20	>20	>20
400.00	>20	>20	>20	>20	16.00	13.00
450.00	>20	>20	16.00	12.00	10.00	9.00
500.00	18.00	13.00	11.00	9.00	8.00	8.00
550.00	12.00	10.00	8.00	8.00	7.00	7.00
600.00	9.00	8.00	7.00	7.00	6.00	6.00

>20=More than 20 years

Table 8: Sensitivity Analysis of Net Present Value (NPV) - Entries are in U.S. Dollars – Yields (tons/acre)

Price/Yield	7.00	7.50	8.00	8.50	9.00	9.50
350.00	(12614.95)	(10910.63)	(9206.31)	(7501.99)	(5797.67)	(4093.35)
400.00	(9096.17)	(7148.38)	(5200.59)	(3252.79)	(1305.00)	642.79
450.00	(5577.39)	(3386.13)	(1194.86)	996.40	3187.67	5378.94
500.00	(2058.62)	376.12	2810.86	5245.60	7680.34	10115.08
550.00	1460.16	4138.37	6816.59	9494.80	12173.02	14851.23
600.00	4978.93	7900.62	10822.31	13744.00	16665.69	19587.38

Table 9: Sensitivity Analysis of Modified Internal Rate of Return on Investment (MIRR) - Entries are in percentage

Price/Yield	7.00	7.50	8.00	8.50	9.00	9.50
350.00	(100.00)	(100.00)	(100.00)	(100.00)	(4.00)	0.00
400.00	(100.00)	(100.00)	(2.00)	2.00	4.00	5.00
450.00	(4.00)	1.00	4.00	6.00	7.00	8.00
500.00	3.00	5.00	7.00	8.00	9.00	10.00
550.00	6.00	8.00	9.00	10.00	11.00	11.00
600.00	8.00	9.00	10.00	11.00	12.00	13.00

Watermelon – Fresh Market

Table 1. Yields and Prices: Watermelon Production

	BEST	OPT	MEDIAN	PESS	WORST
Yield (lbs.)	65000	55000	45000	35000	25000
Price per lb. (\$)	0.24	0.22	0.20	0.18	0.16

Table 2. Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Watermelon Production

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
Seed & Plants	Thou	2.40	240.00	576.00	576	_____
Lime, applied	Ton	1.00	30.00	30.00	30	_____
Telone Banded	Gal	3.00	18.50	55.50	56	_____
Nitrogen (N)	lbs	150.00	0.50	75.00	75	_____
Phosporus (P205)	lbs	70.00	0.44	30.80	31	_____
Potassium (K20)	lbs	120.00	0.32	38.40	38	_____
Boron (B)	lbs	1.00	5.30	5.30	5	_____
Plastic Mulch (36", 8 mil, black)	Roll	1.20	105.00	126.00	126	_____
Herbicide	Acre	3.00	11.70	35.10	35	_____
Insecticide	Acre	3.00	13.40	40.20	40	_____
Fungicide	Appl	10.00	30.00	300.00	300	_____
Bee Hives	Acre	1.00	50.00	50.00	50	_____
Machinery (fuel, lub & maintenance)	Acre	1.00	48.00	48.00	48	_____
Labor	Hrs	20.00	10.75	215.00	215	_____
Electric pump (irrigation system) 1/	Acre	1.00	99.85	99.85	100	_____
Overhead irrigation	Acre	1.00	275.00	275.00	275	_____
Interest on Oper. Cap.	\$	2000.15	0.07	65.00	65	_____
PreHarvest Variable Costs (\$)				2065.15	2,065	
Harvest and Marketing Costs						
	Unit	Quantity	Price	Amt/acre	Total	Yours
Harvest, hauling and packing	Lbs	42750.00	0.03	1283	1,283	_____
Bin, Pallets, Lids	lbs	42750.00	0.03	1283	1,283	_____
Packing shed operations	lbs	42750.00	0.01	428	428	_____
Broker fees	\$	42750.00	0.02	855.00	855	_____
Total Harvest and Marketing (\$)				3847.50	3,848	

Total Variable Costs (\$)

5912.65 5,913

1/- Dissel would cost about \$100 per acre

FIXED COSTS:

Annual Fixed Cost	Unit	Quantity	Price	Amt/acre	Total	Yours
Machinery	Acre	1.00	159.56	159.56	160	_____
Irrigation	Acre	1.00	298.95	298.95	299	_____
Overhead and Management	\$	2065.15	0.15	309.77	310	
Total Fixed Costs (\$)				768.28	768	
Total budgeted cost per acre (\$)				6680.94	6,681	

Table 3. Break-Even (BE) Costs Per lb. – Watermelon Production

BE Pre-harvest variable cost per lb. (\$)	0.05
BE Harvest & marketing cost per lb.	0.09
BE Fixed Cost per lb. (\$)	0.02
BE Total budgeted cost per lb. (\$)	0.15
BE Yield per acre (lb.)	33,405

Table 4. Sensitivity Rated Returns Over Cash Flow for Watermelon Production

	Best	Opt	Opt	<u>Expected</u>	Pess	Pess	Worst
Returns(\$)	4,504	3,775	3,047	2,319	1,591	863	135
Chances	7%	16%	31%	50%	∅	∅	∅
Chances	∅	∅	∅	50%	31%	16%	7%
CHANCES FOR PROFIT	94%		BASE BUDGETED NET REVENUE			2,319	

Table 5. Price Sensitivity Returns Over Cash Flow for Watermelon Production

Price/Yield	Best	Opt	Opt	Expected	Pess	Pess	Worst	% Chanc of Profit
				42750.00				
0.16	2272	1687	1103	519	-65	-649	-1233	67
0.18	3377	2724	2072	1419	767	114	-538	86
0.20	4504	3775	3047	2319	1591	863	135	94
0.22	5647	4837	4028	3219	2410	1601	792	98
0.24	6801	5907	5013	4119	3225	2331	1437	99

Table 6. Estimated Total Annual Fixed Machinery Costs – Watermelon

Number of acres of this crop 40
Interest rate 0.07

Item	% of time for This crop	Cost	Salvage Value	Life	Depr.	Yrs. of Int.	Tax&Ins	FC/Ac.
Tractors (100 hp)	33%	70000	14000	15	1232	901	194	58
Plow (6 row bedder))	33%	22000	4400	15	387	283	61	18
Disk (24')	33%	22000	4400	15	387	283	61	18
Subsoiler	33%	5000	1000	15	88	64	14	4
Transplanter	33%	12000	2400	15	211	154	33	10
Cultivator (6 row)	33%	6000	1200	15	106	77	17	5
Sprayer (18 row boom)	33%	15000	3000	15	264	193	42	12
Tillovator (6 row)	33%	40000	8000	15	704	515	111	33
Plastic layer (3 row)	33%	0	0	15	0	0	0	0
	33%	0	0	0	0	0	0	0
Total		63360	12672		3379	2471	532	160

Interest on Investment (Ave. Inv. X Int. Rate) 2471.04

Taxes and Insurance (Ave. Inv. X .014) 532.22

Total Annual Fixed Costs 6382.46

Total Annual Fixed Costs Per Acre 159.56

Table 7. Drip Irrigation – Watermelon

ACRES IN SYSTEM 40.00
 INTEREST RATE 0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
WELL (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
FILTER & AUTO	200	10	20	7	2
	0	20	0	0	0
	0	20	0	0	0
TOTAL	99700		7970	3240	748
TOTAL ANNUAL FIXED COSTS					11958
TOTAL ANNUAL FIXED COSTS PER ACRE					298.95
TOTAL ANNUAL DEBT PAYMENT PER ACRE					264

OPERATING COSTS

MOTOR SIZE (HP)	15.00	
REPAIRS	2023.50	50.59
ANNUAL PUMPING HOURS	2000.00	
ELECTRICITY		
Demand (standby charge) per YEAR	180.00	
Rate \$ per KWH	0.08	
ANNUAL ENERGY COST	1970.40	
ANNUAL ENERGY COST PER ACRE		49.26
OPERATING COST PER ACRE PER YEAR		99.85

Cantaloupe Production – Fresh Market

Table 1. Yields and Prices: Cantaloupe Production

	BEST	OPT	MEDIAN	PESS	WORST
Yield (each)	7000	6500	6000	5500	5000
Price (each).	1.30	1.15	1.00	0.85	0.70

Table 2. Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Cantaloupe Production

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
Plants 1/-	Thou	5000.00	0.10	500.00	500	_____
Lime, applied	Ton	0.50	30.00	15.00	15	_____
Fertilizer (+ side dressing)	Acre	1.00	395.00	395.00	395	_____
Fertilizer	Gal	0.00	18.50	0.00	0	_____
Plastic Mulch (Narrow 6' bed)	Roll	1.20	100.00	120.00	120	_____
Herbicide	Acre	2.00	15.00	30.00	30	_____
Insecticide	Appl	4.00	14.00	56.00	56	_____
Fungicide (foliar)	Appl	8.00	14.00	112.00	112	_____
Nematicide	Acre	1.00	110.00	110.00	110	_____
Polination (Bee Hives)	Acre	1.00	75.00	75.00	75	_____
Machinery (fuel, lub & maintenance)	Acre	1.00	50.00	50.00	50	_____
Labor	Hrs	17.00	10.00	170.00	170	_____
Irrigation (electric pump) 1/	Acre	1.00	79.88	79.88	80	_____
Interest on Oper. Cap.	\$	1712.88	0.07	55.67	56	_____
PreHarvest Variable Costs				1768.55	1,769	_____
Harvest and Marketing Costs						
	Unit	Quantity	Price	Amt/acre	Total	Yours
Harvest, hauling	Acre	5700.00	0.11	627	627	_____
Packing and cooling	Acre	5700.00	0.32	1824	1,824	_____
Total Harvest and Marketing	Acre	1.00		2451.00	2,451	_____
Total Variable Costs				4219.55	4,220	_____

1/- Seed cost about \$0.04 but it vary.

1/- Dissel would cost about \$100 per acre

FIXED COSTS:

Annual Fixed Cost	Unit	Quantity	Price	Amt/acre	Total	Years
Machinery	Acre	1.00	84.31	84.31	84	_____
Irrigation	Acre	1.00	239.30	239.30	239	_____
Overhead and Management	\$	1768.55	0.15	265.28	265	_____
Total Fixed Costs				588.90	589	
Total budgeted cost per acre						4808.45 4,808

Table 3. Break-Even (BE) Costs Per Fruit – Cantaloupe Production

BE Pre-harvest variable cost per fruit (\$)	0.29
BE Harvest & marketing cost per fruit (\$)	0.41
BE Fixed Outlays per fruit (\$)	0.10
BE Total budgeted cost per fruit (\$)	0.80
BE Yield (each).	4808

Table 4. Sensitivity Rated Returns Over Cash Flow for Cantaloupe Production

	Best	Opt	Opt	Expected	Pess	Pess	Worst
Returns(\$)	2,613	2,139	1,665	1,192	718	244	-229
Chances	7%	16%	31%	50%	∅	∅	∅
Chances	∅	∅	∅	50%	31%	16%	7%
CHANCES FOR PROFIT	90%		BASE BUDGETED NET REVENUE (\$)				1,192

Table 5. Price Sensitivity Returns Over Cash Flow for Cantaloupe Production

Price/Yield	Best	Opt	Opt	Expected	Pess	Pess	Worst	%
\$/each.	\$	\$	\$	5700.00	\$	\$	\$	chances
0.70	759	303	-153	-608	-1064	-1520	-1976	25
0.85	1682	1218	755	292	-172	-635	-1098	62
1.00	2613	2139	1665	1192	718	244	-229	90
1.15	3552	3065	2578	2092	1605	1118	631	98
1.30	4498	3996	3494	2992	2489	1987	1485	99

Table 6: Estimated Total Annual Fixed Machinery Costs – Cantaloupe Production

Number of acres of this crop 50
 Interest rate 0.07

Equipment Costs for Watermelon - 2016

Item	% of time for		Salvage Value	Life	Yrs. of			FC/Ac.
	This crop	Cost			Depr.	Int.	Tax&Ins	
Tractors (100 hp)	10%	70000	14000	15	373	273	59	14
Plow (6 row bedder))	50%	22000	4400	15	587	429	92	22
Disk (24')	10%	22000	4400	15	117	86	18	4
Subsoiler	50%	5000	1000	15	133	98	21	5
Transplanter	25%	12000	2400	15	160	117	25	6
Cultivator (6 row)	40%	6000	1200	15	128	94	20	5
Sprayer (18 row boor	25%	15000	3000	15	200	146	32	8
Tillovator (6 row)	25%	40000	8000	15	533	390	84	20
Plastic layer (3 row)	75%	0	0	15	0	0	0	0
	40%	0	0	0	0	0	0	0
Total		<u>41850</u>	<u>8370</u>		<u>2232</u>	<u>1632</u>	<u>352</u>	<u>84</u>
Interest on Investment (Ave. Inv. X Int. Rate)					1632.15			
Taxes and Insurance (Ave. Inv. X .014)					351.54			
Total Annual Fixed Costs					<u>4215.69</u>			
Total Annual Fixed Costs Per Acre					<u>84.31</u>			

Table 7: Drip Irrigation – Cantaloupe Production

Acres in system 50.00
 Interest rate 0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
Well (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
Filter & Auto	250	10	25	8	2
	0	20	0	0	0
	0	20	0	0	0
TOTAL	99750		7975	3242	748
Total Annual Fixed Costs					11965
Total Annual Fixed Costs Per Acre					239.30
Total Annual Debt Payment Per Acre					212

OPERATING COSTS

Motor Size (HP)	15.00	
Repairs	2023.75	40.48
Annual Pumping Hours	2000.00	
Electricity		
Demand (standby charge) per YEAR	180.00	
Rate \$ per KWH	0.08	
Annual Energy Cost	1970.40	
Annual Energy Cost Per Acre		39.41
OPERATING COST PER ACRE PER YEAR		79.88

Strawberry – Fresh Market

Table 1. Yields and Prices: Strawberry Production

	BEST	OPT	MEDIAN	PESS	WORST
Yield (each)	20,000	19,000	18,000	17,000	16,000
Price (each).	3.00	2.50	2.00	1.50	1.00

Table 2. Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Strawberry Production

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
Land prep	Acre	1.00	300.00	1	300	_____
Plants	Acre	18000.00	0.15	2700.00	2,700	_____
Lime, applied	Ton	1.00	35.00	35.00	35	_____
Fertilizer (+ side dressing)	Acre	1.00	250.00	250.00	250	_____
Fertilizer (Liquid)	Gal	1.00	400.00	400.00	400	_____
Plastic Mulch (Narrow 6' bed)	Roll	1.20	100.00	120.00	120	_____
Herbicide	Acre	3.00	15.00	45.00	45	_____
Insecticide	Acre	6.00	35.00	210.00	210	_____
Fungicide	Acre	1.00	400.00	400.00	400	_____
Fumigant	Acre	1.00	600.00	600.00	600	_____
Pollination (Bee Hives)	Acre	1.00	75.00	75.00	75	_____
Machinery (fuel, lube & maintenance)	Acre	1.00	50.00	50.00	50	_____
Labor (machine + manual)	Hrs	48.00	10.00	480.00	480	_____
Irrigation (electric pump + freeze protection) 1/	Acre	1.00	399.32	399.32	399	_____
Interest on Operation Capital	\$	5764.32	0.07	187.34	187	_____
Pre-Harvest Variable Costs				5951.66	5,952	
<u>Harvest and Marketing Costs</u>						
	Unit	Quantity	Price	Amt/acre	Total	Yours
Harvest, hauling	Acre	17100.00	0.11	1881	1,881	_____
Packing and cooling	Flat	17100.00	0.84	14364	14,364	_____
Total Harvest and Marketing	Acre	1.00		16245.00	16,245	
Total Variable Costs				22196.66	22,197	

FIXED COSTS:

Annual Fixed Cost	Unit	Quantity	Price	Amt/acre	Total	Yours
Machinery	Acre	1.00	421.57	421.57	422	_____
Irrigation	Acre	1.00	1193.70	1193.70	1,194	_____
Overhead and Management	\$	5951.66	0.15	892.75	893	_____
Total Fixed Costs				2508.02	2,508	_____
Total budgeted cost per acre				24704.67	24,705	_____

Table 3. Break-Even (BE) Costs Per lb. – Strawberry Production

BE Pre-harvest variable cost per lb (\$).	0.33
BE Harvest & marketing cost per lb (\$).	0.90
BE Fixed Outlays per lb (\$).	0.14
BE Total budgeted cost per lb (\$).	1.37
BE Yield (lbs. per acre).	12,352

Table 4: Sensitivity Rated Returns Over Cash Flow for Strawberry Production

	Best	Opt	Opt	Expected	Pess	Pess	Worst
Returns(\$)	24,895	20,362	15,829	11,295	6,762	2,229	-2,305
Chances	7%	16%	31%	50%	∅	∅	∅
Chances	∅	∅	∅	50%	31%	16%	7%
CHANCES FOR PROFIT	89%			BASE BUDGETED NET REVENUE (\$)	11,295		

Table 5: Price Sensitivity Returns Over Cash Flow for Strawberry Production

Price/Yield	Best	Opt	Opt	Expected	Pess	Pess	Worst	% chances
\$/each.	\$	\$	\$	6000 each	\$	\$	\$	Of Profit
1.00	5835	1895	-2045	-5985	-8796	-11608	-14419	20
1.50	15825	11315	6805	2295	-2215	-6724	-11234	60
2.00	24895	20362	15829	11295	6762	2229	-2305	89
2.50	34006	29436	24866	20295	15725	11156	6584	99
3.00	43157	38537	33916	29295	24675	20054	15434	99

Table 6: Estimated Total Annual Fixed Machinery Costs – Strawberry Production

Number of acres of this crop 10
 Interest rate 0.07

Item	% of time for		Salvage Value	Life	Depr.	Yrs. of		FC/Ac.
	This crop	Cost				Int.	Tax&Ins	
Tractors (100 hp)	10%	70000	14000	15	373	273	59	71
Plow (6 row bedder)	50%	22000	4400	15	587	429	92	111
Disk (24')	10%	22000	4400	15	117	86	18	22
Subsoiler	50%	5000	1000	15	133	98	21	25
Transplanter	25%	12000	2400	15	160	117	25	30
Cultivator (6 row)	40%	6000	1200	15	128	94	20	24
Sprayer (18 row boom)	25%	15000	3000	15	200	146	32	38
Tillevator (6 row)	25%	40000	8000	15	533	390	84	101
Plastic layer (3 row)	75%	0	0	15	0	0	0	0
	40%	0	0	0	0	0	0	0
Total		<u>41850</u>	<u>8370</u>		<u>2232</u>	<u>1632</u>	<u>352</u>	<u>422</u>

Interest on Investment (Ave. Inv. X Int. Rate)	1632.15
Taxes and Insurance (Ave. Inv. X .014)	351.54
Total Annual Fixed Costs	<u>4215.69</u>
Total Annual Fixed Costs Per Acre	<u>421.57</u>

Table 7: Drip Irrigation – Strawberry Production

ACRES IN SYSTEM 10.00
 INTEREST RATE 0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
WELL (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
FILTER & AUTO	50	10	5	2	0
	0	20	0	0	0
	0	20	0	0	0
TOTAL	99550		7955	3235	747

TOTAL ANNUAL FIXED COSTS 11937

TOTAL ANNUAL FIXED COSTS PER ACRE 1193.70

TOTAL ANNUAL DEBT PAYMENT PER ACRE 1,056

OPERATING COSTS

MOTOR SIZE (HP) 15.00
 REPAIRS 2022.75 202.28
 ANNUAL PUMPING HOURS 2000.00
 ELECTRICITY
 Demand (standby charge) per YEAR 180.00
 Rate \$ per KWH 0.08
 ANNUAL ENERGY COST 1970.40
 ANNUAL ENERGY COST PER ACRE 197.04

OPERATING COST PER ACRE PER YEAR 399.32

Bananas – Veinte Cohol Cultivar

Table 1: Yields and Prices: Veinte Cohol Banana Production

	BEST	OPT	MEDIAN	PESS	WORST
Yield (Lbs.)	10000	9000	8000	7000	6000
Price/lb.	1.75	1.50	1.25	1.00	0.75

Table 2: Variable Costs (VC), Harvesting and Marketing Cost (H&MC) and Fixed Costs of Banana Production

Item	Unit	Quantity	Price	Amt/acre	Total	Yours
Variable Costs						
TC Plants (Suckers or Seeds)	Acre	800.00	1.50	1200.00	1,200	_____
Lime, applied	Ton	0.50	30.00	15.00	15	_____
Nitrogen (N) 1/-	lbs	2240.00	0.50	1120.00	1,120	_____
N-P-K (10-10-10)	lbs	640.00	0.44	281.60	282	_____
Potassium	lbs	4400.00	0.32	1408.00	1,408	_____
Sucker pruning	Acre	1.00	30.00	30.00	30	_____
Deleafing	Acre	1.00	30.00	30.00	30	_____
Weed control (herbicide)	Acre	1.00	35.00	35.00	35	_____
Bagging 2/-	Acre	800.00	0.15	120.00	120	_____
Labor	Hrs	17.00	10.00	170.00	170	_____
Land prep (labor, tractor)	Hrs	4.00	10.00	40.00	40	_____
Fuel, Oil, Lube, & Machinery	Acre	1.00	30.00	30.00	30	_____
Repair and Maintenance	Acre	1.00	25.00	25.00	25	_____
Irrigation	Acre	1.00	199.67	199.67	200	_____
Interest on Oper. Cap.	\$	4704.27	0.07	152.89	153	_____
PreHarvest Variable Costs				4857.16	4,857	_____

1/- Fertility should be based on soil and sometime tissue analysis.

2/- Only large-scale commercial farmers do this.

<u>Harvest and Marketing Costs</u>	Unit	Quantity	Price	Amt/acre	Total	Yours
Harvesting	Bunches	7600.00	0.20	1520	1,520	_____
Selection and Packing 3/-	Boxes	286.79	1.00	287	287	_____
Packaging material 4/-	Boxes	286.79	0.50	143	143	_____
Total Harvest and Marketing				1950.19	1,950	_____
Total Variable Costs				6807.35	6,807	_____

3/- This cost may not apply for a small grower. They usually adopt roadside stand.

4/- This cost may not apply also as most farmers sell by bunches and road-stand markets

FIXED COSTS:

	Unit	Quantity	Price	Amt/acre	Total	Yours
Annual Fixed Cost	Acre	1.00	39.13	39.13	39	_____
Machinery	Acre	1.00	597.20	597.20	597	_____
Irrigation	\$	4857.16	0.10	485.72	486	_____
Overhead and Management				1122.05	1,122	_____
Total budgeted cost per acre				7929.40	7,929	_____

Table 3. Break-Even (BE) Costs Per lb. – Veinte Cohol Banana Production

BE Pre-harvest variable cost per lb. (\$).	0.61
BE Harvest & marketing cost per lb. (\$).	0.24
BE Fixed Cost per lb. (\$).	0.14
BE Total budgeted cost per lb. (\$).	0.99
BE Yield per acre (lbs.)	6344

Table 4. Sensitivity Rated Returns Over Cash Flow for Veinte Cohol Banana Production

	Best	Opt	Opt.	Expected	Pess	Pess	Worst
Returns(\$)	5,429	4,309	3,190	2,071	951	-168	-1,288
Chances	7%	16%	31%	50%	∅	∅	∅
Chances	∅	∅	∅	50%	31%	16%	7%
Chances for Profit		82%		Base Budgeted Exp Rev - Fruits sales (\$)			2,071
Sales of suckers 5/-	1.00	800.00					800.00
Sales of male flowers 6/-	1.00	200.00					200.00
Sales of leafs 7/-	1.00	80.00					80.00
Total Expected Revenue Per Acre (\$)							3150.60

5/- Suckers prices range from \$1 - \$21 depending on the sizes and location of purchase.

Also a banana mother plant produces 5 or more suckers during a planting season in Georgia

6/- Male flowers sell for \$3-\$5 a piece in Farmer's market

7/- Leaf prices vary from \$1-\$3 for a bundle of fresh to frozen

Table 5: Price Sensitivity Returns Over Cash Flow for Veinte Cohol Production

Price/Yield 8/-	Best	Opt	Opt	Expected	Pess	Pess	Worst	% Chances of Profit
				8000.00				
0.75	1179	147	-884	-1916	-2947	-3979	-5010	18
1.00	3292	2222	1153	84	-985	-2054	-3123	52
1.25	5443	4323	3204	2084	965	-155	-1274	82
1.50	7627	6446	5265	4084	2903	1722	542	96
1.75	9840	8588	7336	6084	4832	3580	2329	99

8/- Price sensitivity analysis does not include extra revenue from sales of suckers, male flowers and leaves.

Table 6: Estimated Total Annual Fixed Machinery Costs – Veinte Cohol Production

Number of acres of this crop 100
 Interest rate 0.07

Equipment Costs for Banana - 2019

Item	% of time for This crop		Salvage Value		Yrs. of			FC/Ac.
	Cost	Value	Life	Depr.	Int.	Tax&Ins		
Tractors (100 hp)	10%	70000	14000	15	373	273	59	7
Plow (6 row bedder))	50%	22000	4400	15	587	429	92	11
Disk (24')	10%	22000	4400	15	117	86	18	2
Subsoiler	50%	5000	1000	15	133	98	21	3
Transplanter	25%	0	0	15	0	0	0	0
Cultivator (6 row)	40%	6000	1200	15	128	94	20	2
Sprayer (18 row boom)	25%	15000	3000	15	200	146	32	4
Tillovator (6 row)	25%	40000	8000	15	533	390	84	10
Plastic layer (3 row)	0%	0	0	15	0	0	0	0
	0%	0	0	0	0	0	0	0
Total		38850	7770		2072	1515	326	39

Interest on Investment (Ave. Inv. X Int. Rate)	1515.15
Taxes and Insurance (Ave. Inv. X .014)	326.34
Total Annual Fixed Costs	3913.49
Total Annual Fixed Costs Per Acre	39.13

Table 7: Drip Irrigation – Veinte Cohol Production

ACRES IN SYSTEM 20.00
 INTEREST RATE 0.07

	INVESTMENT	YRS.	DEPREC.	INTEREST	TAXES & INS.
Sprinkler system	60000	10	6000	1950	450
Power unit	12500	1	0	406	94
Well (8 inches)	15000	20	750	488	113
Pump	12000	10	1200	390	90
Filter & Auto	100	10	10	3	1
	0	20	0	0	0
	0	20	0	0	0
Total	99600		7960	3237	747

Total Annual Fixed Costs 11944

Total Annual Fixed Costs Per Acre 597.20

Total Annual Debt Payment Per Acre 528

OPERATING COSTS

MOTOR SIZE (HP) 15.00
 REPAIRS 2023.00 101.15
 ANNUAL PUMPING HOURS 2000.00
 ELECTRICITY
 Demand (standby charge) per YEAR 180.00
 Rate \$ per KWH 0.08
 ANNUAL ENERGY COST 1970.40
 ANNUAL ENERGY COST PER ACRE 98.52

OPERATING COST PER ACRE PER YEAR 199.67